

# SEQUENCE LISTING

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 VAN DEVENTER, Sander Jan Hendrik

<120> Hedgehog-related prophylaxis, therapy and diagnosis of  
 GI tract carcinogenesis

<130> 28902.nob10

<140> (not yet assigned)  
 <141> 2004-08-20

<150> PCT/NL03/00127  
 <151> 2003-02-20

<150> EP 02075690.4  
 <151> 2002-02-20

<160> 3

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<210> 1  
 <211> 396  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <223> Human Desert Hedgehog protein

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Ala Leu Pro Ala Gln Ser Cys Gly Pro Gly Arg Gly Pro Val Gly Arg  
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Arg Arg Tyr Ala Arg Lys Gln Leu Val Pro Leu Leu Tyr Lys Gln Phe  
 35 40 45

Val Pro Gly Val Pro Glu Arg Thr Leu Gly Ala Ser Gly Pro Ala Glu  
 50 55 60

Gly Arg Val Ala Arg Gly Ser Glu Arg Phe Arg Asp Leu Val Pro Asn  
 65 70 75 80

Tyr Asn Pro Asp Ile Ile Phe Lys Asp Glu Glu Asn Ser Gly Ala Asp  
 85 90 95

Arg Leu Met Thr Glu Arg Cys Lys Glu Arg Val Asn Ala Leu Ala Ile  
 100 105 110

Ala Val Met Asn Met Trp Pro Gly Val Arg Leu Arg Val Thr Glu Gly  
 115 120 125  
 Trp Asp Glu Asp Gly His His Ala Gln Asp Ser Leu His Tyr Glu Gly  
 130 135 140  
 Arg Ala Leu Asp Ile Thr Thr Ser Asp Arg Asp Arg Asn Lys Tyr Gly  
 145 150 155 160  
 Leu Leu Ala Arg Leu Ala Val Glu Ala Gly Phe Asp Trp Val Tyr Tyr  
 165 170 175  
 Glu Ser Arg Asn His Val His Val Ser Val Lys Ala Asp Asn Ser Leu  
 180 185 190  
 Ala Val Arg Ala Gly Gly Cys Phe Pro Gly Asn Ala Thr Val Arg Leu  
 195 200 205  
 Trp Ser Gly Glu Arg Lys Gly Leu Arg Glu Leu His Arg Gly Asp Trp  
 210 215 220  
 Val Leu Ala Ala Asp Ala Ser Gly Arg Val Val Pro Thr Pro Val Leu  
 225 230 235 240  
 Leu Phe Leu Asp Arg Asp Leu Gln Arg Arg Ala Ser Phe Val Ala Val  
 245 250 255  
 Glu Thr Glu Trp Pro Pro Arg Lys Leu Leu Leu Thr Pro Trp His Leu  
 260 265 270  
 Val Phe Ala Ala Arg Gly Pro Ala Pro Ala Pro Gly Asp Phe Ala Pro  
 275 280 285  
 Val Phe Ala Arg Arg Leu Arg Ala Gly Asp Ser Val Leu Ala Pro Gly  
 290 295 300  
 Gly Asp Ala Leu Arg Pro Ala Arg Val Ala Arg Val Ala Arg Glu Glu  
 305 310 315 320  
 Ala Val Gly Val Phe Ala Pro Leu Thr Ala His Gly Thr Leu Leu Val  
 325 330 335  
 Asn Asp Val Leu Ala Ser Cys Tyr Ala Val Leu Glu Ser His Gln Trp  
 340 345 350  
 Ala His Arg Ala Phe Ala Pro Leu Arg Leu Leu His Ala Leu Gly Ala  
 355 360 365  
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 Arg Leu Leu Tyr Arg Leu Ala Glu Glu Leu Leu Gly  
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<223> Human Indian Hedgehog protein

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			20					25					30		
Val	Asp	Ile	Thr	Thr	Ser	Asp	Arg	Asp	Arg	Asn	Lys	Tyr	Gly	Leu	Leu
			35				40					45			
Ala	Arg	Leu	Ala	Val	Glu	Ala	Gly	Phe	Asp	Trp	Val	Tyr	Tyr	Glu	Ser
	50					55				60					
Lys	Ala	His	Val	His	Cys	Ser	Val	Lys	Ser	Glu	His	Ser	Ala	Ala	Ala
65					70				75					80	
Lys	Thr	Gly	Gly	Cys	Phe	Pro	Ala	Gly	Ala	Gln	Val	Arg	Leu	Glu	Ser
				85				90						95	
Gly	Ala	Arg	Val	Ala	Leu	Ser	Ala	Val	Arg	Pro	Gly	Asp	Arg	Val	Leu
			100					105					110		
Ala	Met	Gly	Glu	Asp	Gly	Ser	Pro	Thr	Phe	Ser	Asp	Val	Leu	Ile	Phe
		115					120					125			
Leu	Asp	Arg	Glu	Pro	His	Arg	Leu	Arg	Ala	Phe	Gln	Val	Ile	Glu	Thr
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Gln	Asp	Pro	Pro	Arg	Arg	Leu	Ala	Leu	Thr	Pro	Ala	His	Leu	Leu	Phe
145					150					155					160
Thr	Ala	Asp	Asn	His	Thr	Glu	Pro	Ala	Ala	Arg	Phe	Arg	Ala	Thr	Phe
				165					170					175	
Ala	Ser	His	Val	Gln	Pro	Gly	Gln	Tyr	Val	Leu	Val	Ala	Gly	Val	Pro
			180					185					190		
Gly	Leu	Gln	Pro	Ala	Arg	Val	Ala	Ala	Val	Ser	Thr	His	Val	Ala	Leu
		195					200					205			
Gly	Ala	Tyr	Ala	Pro	Leu	Thr	Lys	His	Gly	Thr	Leu	Val	Val	Glu	Asp
	210					215					220				
Val	Val	Ala	Ser	Cys	Phe	Ala	Ala	Val	Ala	Asp	His	His	Leu	Ala	Gln
225					230					235					240
Leu	Ala	Phe	Trp	Pro	Leu	Arg	Leu	Phe	His	Ser	Leu	Ala	Trp	Gly	Ser
				245					250					255	
Trp	Thr	Pro	Gly	Glu	Gly	Val	His	Trp	Tyr	Pro	Gln	Leu	Leu	Tyr	Arg
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Ser Gly Ala Gly Ser  
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<212> PRT  
<213> Homo sapiens

<220>  
<223> Human Sonic hedgehog protein

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20 25 30

Arg Arg His Pro Lys Lys Leu Thr Pro Leu Ala Tyr Lys Gln Phe Ile  
35 40 45

Pro Asn Val Ala Glu Lys Thr Leu Gly Ala Ser Gly Arg Tyr Glu Gly  
50 55 60

Lys Ile Ser Arg Asn Ser Glu Arg Phe Lys Glu Leu Thr Pro Asn Tyr  
65 70 75 80

Asn Pro Asp Ile Ile Phe Lys Asp Glu Glu Asn Thr Gly Ala Asp Arg  
85 90 95

Leu Met Thr Gln Arg Cys Lys Asp Lys Leu Asn Ala Leu Ala Ile Ser  
100 105 110

Val Met Asn Gln Trp Pro Gly Val Lys Leu Arg Val Thr Glu Gly Trp  
115 120 125

Asp Glu Asp Gly His His Ser Glu Glu Ser Leu His Tyr Glu Gly Arg  
130 135 140

Ala Val Asp Ile Thr Thr Ser Asp Arg Asp Arg Ser Lys Tyr Gly Met  
145 150 155 160

Leu Ala Arg Leu Ala Val Glu Ala Gly Phe Asp Trp Val Tyr Tyr Glu  
165 170 175

Ser Lys Ala His Ile His Cys Ser Val Lys Ala Glu Asn Ser Val Ala  
180 185 190

Ala Lys Ser Gly Gly Cys Phe Pro Gly Ser Ala Thr Val His Leu Glu  
195 200 205

Gln 210	Gly	Gly	Thr	Lys	Leu	Val 215	Lys	Asp	Leu	Ser	Pro 220	Gly	Asp	Arg	Val
Leu 225	Ala	Ala	Asp	Asp	Gln 230	Gly	Arg	Leu	Leu	Tyr 235	Ser	Asp	Phe	Leu	Thr 240
Phe	Leu	Asp	Arg	Asp 245	Asp	Gly	Ala	Lys	Lys 250	Val	Phe	Tyr	Val	Ile 255	Glu
Thr	Arg	Glu	Pro 260	Arg	Glu	Arg	Leu	Leu	Leu 265	Thr	Ala	Ala	His 270	Leu	Leu
Phe	Val	Ala 275	Pro	His	Asn	Asp	Ser 280	Ala	Thr	Gly	Glu	Pro 285	Glu	Ala	Ser
Ser	Gly 290	Ser	Gly	Pro	Pro	Ser 295	Gly	Gly	Ala	Leu	Gly 300	Pro	Arg	Ala	Leu
Phe 305	Ala	Ser	Arg	Val	Arg 310	Pro	Gly	Gln	Arg	Val 315	Tyr	Val	Val	Ala	Glu 320
Arg	Asp	Gly	Asp 325	Arg	Arg	Leu	Leu	Pro	Ala 330	Ala	Val	His	Ser	Val 335	Thr
Leu	Ser	Glu 340	Glu	Ala	Ala	Gly	Ala	Tyr 345	Ala	Pro	Leu	Thr	Ala 350	Gln	Gly
Thr	Ile 355	Leu	Ile	Asn	Arg	Val	Leu 360	Ala	Ser	Cys	Tyr	Ala 365	Val	Ile	Glu
Glu 370	His	Ser	Trp	Ala	His	Arg 375	Ala	Phe	Ala	Pro	Phe 380	Arg	Leu	Ala	His
Ala 385	Leu	Leu	Ala	Ala	Leu 390	Ala	Pro	Ala	Arg	Thr 395	Asp	Arg	Gly	Gly	Asp 400
Ser	Gly	Gly	Gly	Asp 405	Arg	Gly	Gly	Gly	Gly 410	Gly	Arg	Val	Ala	Leu 415	Thr
Ala	Pro	Gly	Ala 420	Ala	Asp	Ala	Pro	Gly 425	Ala	Gly	Ala	Thr	Ala 430	Gly	Ile
His	Trp 435	Tyr	Ser	Gln	Leu	Leu 440	Tyr	Gln	Ile	Gly	Thr 445	Trp	Leu	Leu	Asp
Ser 450	Glu	Ala	Leu	His	Pro	Leu 455	Gly	Met	Ala	Val	Lys 460	Ser	Ser		